

Claims

1. A method of generating a stereoscopic image of a scene, the method comprising:-

defining at least one first region of a scene;

forming at least one first image pair, wherein the or each said first image pair comprises a first image of at least a part of a said first region of said scene when viewed from a first location, and a second image of at least a part of said first region when viewed from a second location, spaced from said first location;

carrying out a first mapping process on at least one said first image pair to generate a respective first part of a display image pair;

defining at least one second region of said scene;

forming at least one second image pair, wherein the or each said second image pair comprises a third image of at least a part of a said second region of said scene when viewed from a third location, and a fourth image of at least a part of said second region when viewed from a fourth location, spaced from said third location;

carrying out a second mapping process on at least one said second image pair to generate a respective second part of said display image pair; and

combining the or each first and second part of said display image pairs to form said display image pair, said display image pair being adapted to provide a stereoscopic image of said first and second regions of said scene;

wherein an object having a predetermined depth in a viewing direction in a said first region has a first perceived depth and an object having said predetermined depth in a viewing direction in a said second region has a second perceived depth, different from said first perceived depth, when said stereoscopic image is viewed in stereo.

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2. A method according to claim 1 further comprising

defining at least one third region of said scene;

forming at least one third image pair, wherein the or each said third image pair comprises a fifth image of at least a part of a said third region of said scene when viewed from a fifth location, and a sixth image of at least a part of said third region when viewed from a sixth location, spaced from said fifth location;

carrying out a third mapping process on at least one said third image pair to generate a respective third part of said display image pair; and

combining the or each third part of said display image pair with the or each first and second part of said display image pairs to form said display image pair, said display image pair being adapted to provide a stereoscopic image of said first, second and third regions of said scene;

wherein an object having said predetermined depth in a viewing direction in a said third region has a third perceived depth different from at least said first perceived depth, when said stereoscopic image is viewed in stereo.

3. A method according to claim 1 or 2, wherein the scene is real.

4. A method according to any one of the preceding claims, wherein said locations are located in a plane.

5. A method according to any one of the preceding claims, wherein each region is defined by its distance from at least one said location.

6. A method according to any one of the preceding claims, wherein the perceived depth in each region is determined by the distance between the locations from which the respective image pairs are viewed.

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7. A method according to any one of the preceding claims, further comprising dividing the image pairs into a plurality of image pair elements and determining the distance in the scene of each element from a position between the respective locations from which the image pair was viewed to determine which region that element is in.

8. A method according to claim 6, further comprising discarding elements from image pairs which are not from their respective regions.

9. A method of generating a stereoscopic image of a scene, substantially as hereinbefore described with reference to the accompanying drawings.

10. A computing program adapted to carry out a method according to any one of the preceding claims.

11. An apparatus for generating a stereoscopic image of a scene, the apparatus comprising:-

at least one first image forming device for forming at least one first image pair, wherein the or each said first image pair comprises a first image of at least a part of a first region of said scene when viewed from a first location, and a second image of at least a part of said first region when viewed from a second location, spaced from said first location;

at least one first mapping device for carrying out a first mapping process on at least one said first image pair to generate a respective first part of a display image pair;

at least one second image forming device for forming at least one second image pair, wherein the or each said second image pair comprises a third image of at least a part of a second region of said scene when viewed from a third location, and a fourth image of at least a part of said second region when viewed from a fourth location, spaced from said third location; and

at least one second mapping device for carrying out a second mapping process on at least one said second image pair to generate a respective second part of said display image pair;

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at least one first image combining device for combining the or each first and second part of said display image pairs to form said display image pair, said display image pair being adapted to provide a stereoscopic image of said first and second regions of said scene;

wherein an object having a predetermined depth in a viewing direction in a said first region has a first perceived depth and an object having said predetermined depth in a viewing direction in a said second region has a second perceived depth, different from said first perceived depth, when said stereoscopic image is viewed in stereo.

12. An apparatus according to claim 11 further comprising:-

at least one third image forming device for forming at least one third image pair, wherein the or each said third image pair comprises a fifth image of at least a part of a third region of said scene when viewed from a fifth location, and a sixth image of at least a part of said third region when viewed from a sixth location, spaced from said fifth location;

at least one third mapping device for carrying out a third mapping process on at least one said third image pair to generate a respective third part of said display image pair; and

at least one second image combining device for combining the or each third part of said display image pair with the or each first and second part of said display image pairs to form said display image pair, said display image pair being adapted to provide a stereoscopic image of said first, second and third regions of said scene;

wherein an object having said predetermined depth in a viewing direction in a said third region has a third perceived depth different from at least said first perceived depth, when said stereoscopic image is viewed in stereo.

13. An apparatus according to claim 11 or 12, wherein the scene is real.

14. An apparatus according to claim 13, wherein at least one said image forming device comprises a camera.

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15. An apparatus according to claim 13 or 14, wherein at least one said mapping device and at least one said imaging combining device comprise a computing device.
16. An apparatus according to claim 11 or 12, wherein the scene is simulated.
17. An apparatus according to claim 16, wherein at least one said image forming device, at least one said mapping device and at least one said imaging combining device comprise a computing device.
18. An apparatus for generating a stereoscopic image of a scene substantially as hereinbefore described with reference to the accompanying drawings.
19. A stereoscopic image comprising at least one display image pair having at least one first part representing at least one first region of a scene and at least one second part representing at least one second region of said scene, wherein when at least one said display pair are viewed in stereo an object having a predetermined depth in a viewing direction in a said first region has a first perceived depth and an object having said predetermined depth in a viewing direction in a said second region has a second perceived depth, different from said first perceived depth.
20. A method of generating a stereoscopic image of a scene, the method comprising:-

defining at least one first and at least one second region of a scene;

generating at least one stereoscopic image of said first and second regions of said scene wherein an object having a predetermined depth in a viewing direction in a said first region has a first perceived depth and an object having said predetermined depth in a viewing direction in a said second region has a second perceived depth, different from said first perceived depth, when said stereoscopic image is viewed in stereo.